CLAIMS

1. An aircraft tire, inflated to high pressure, having a tread, a crown reinforcement and a radial carcass reinforcement, this radial carcass reinforcement comprising a plurality of textile reinforcement elements oriented substantially radially (that is to say, forming an angle of between 80° and 100° with the circumferential direction), this reinforcement being anchored to at least one circumferential reinforcement armature within each bead, wherein this tire comprises means for imparting a dimensional stability and then limit the tensile stresses in order to improve the resistance to ozone attack and have a better resistance to the propagation of cracks or notches initiated by foreign bodies in said tread.

2 - An aircraft tire according to Claim 1, wherein said means for imparting a dimensional stability to the tire consists in the use as radial reinforcement elements of the carcass reinforcement of composite cables which curve representing the tensile force as a function of the relative elongation of each reinforcement element of the carcass reinforcement is substantially composed of a two part curve on each side of a transition point corresponding to the relative elongation between 1% and 7%, said curve having a gradient at the origin (zero deformation) and a gradient at break (deformation εR), the ratio of the gradient of the tangent to the curve at the point of zero relative elongation $\varepsilon 0$ to the gradient of the tangent to the same curve at the point of elongation at break εR being between 0.08 and 1.0, and wherein the breaking load of a reinforcement element of the carcass is greater than 70 cN/tex.

3. An aircraft tire according to Claim 2, wherein the reinforcement elements of the carcass are composite cables formed by plying at least one yarn having a modulus of elasticity in tension at least equal to 2000 cN/tex, with at least one yarn having a modulus of elasticity upon traction at most equal to 1500 cN/tex, said elasticity moduli of said yarns being measured for a tensile force equal to ten percent (10%) of the breaking load of each yarn in question.

4. An aircraft tire according to Claim 3 wherein some of the reinforcement elements are anchored around the circumferential reinforcement armature axially from the inside towards the outside and the other reinforcement elements are anchored around the same circumferential reinforcement armature from the outside towards the inside.

5. An aircraft tire, inflated to high pressure, with a tread, a crown reinforcement and a radial carcass reinforcement, comprising:

- at least two axially inner plies (1A and 1B) formed of textile reinforcement elements oriented radially (angle of the reinforcements between 80° and 100° with the circumferential direction), said two plies being wound around at least one bead wire within each bead from the inside to the outside, forming upturns and,

- at least one axially outer ply of textile reinforcement elements oriented radially, superposed radially on the inner plies beneath the crown reinforcement to extend along the upturns of said inner plies in the beads ,

and being **characterized in that** the radial reinforcement elements of all the plies of the carcass reinforcement are composite cables formed by plying at least one yarn having a modulus of elasticity in tension at least equal to 2000 cN/tex, with at least one yarn, whether overtwisted or not, of modulus of elasticity in tension at most equal to 1500 cN/tex, said moduli of elasticity of said yarns being measured for a tensile force equal to 0.1 times the breaking load of each yarn in question.

6. A tire according to Claim 5, wherein the curve representing the tensile force as a function of the relative elongation of each reinforcement element of the carcass reinforcement has a gradient at the origin (zero deformation) and a gradient at break (deformation εR), the ratio of the gradient of the tangent to the curve at the point of zero relative elongation $\varepsilon 0$, to the gradient of the tangent to the same curve at the point of elongation at break εR being between 0.08 and 1.0.

7. A tire according to Claim 6, wherein the relative elongation εT at a transition point T, defined as being the point of intersection between the curve representing the tensile force as a function of elongation ε and a straight line parallel to the y-axis of said curve passing through the point of intersection of the tangents to said curve respectively at the points corresponding to the zero relative elongation $\varepsilon 0$ and to the relative elongation at break εR, is of between 1% and 7%.

8. A tire according to Claim 7, wherein the breaking load of a reinforcement element is greater than 70 cN/tex.

9. A tire according to Claim 8, wherein the yarn of high modulus is a yarn of filaments of aromatic polyamide and in that the yarn of low modulus is a yarn of filaments of aliphatic polyamide.

10. A tire according to Claim 5, wherein the calendering rubber mix(es) of the axially inner carcass plies, wound around the anchoring bead wire to form upturns, have secant moduli of extension of a value less than the secant modulus of extension of the calendering mixes of the axially outer ply (plies) (1C, 1D).

11. A tire according to Claim 10, wherein the modulus of the single calendering mix of the axially inner plies (1A, 1B) is between 4.5 and 6.0 MPa, whereas the modulus of the single mix of the axially outer plies (1C, 1D) is between 10.0 and 14.0 MPa.

12. A tire according to Claim 5, wherein the crown reinforcement comprises at least one working reinforcement, obtained by winding in a zigzag, around a more or less cylindrical form and from one edge of said reinforcement to the other, a strip of at least one reinforcement element until at least two layers of crossed elements forming an angle of between 8° and 30° with the circumferential direction are formed, said reinforcement element being a composite cable of the same nature and of the same structure as the cables forming the carcass reinforcement.

13. A tire according to Claim 12, wherein the working crown reinforcement comprises at least, radially between the carcass reinforcement and the layers obtained by winding in a zigzag, a ply formed of circumferential elements of the same nature and of the same structure as the cables forming the carcass reinforcement.

14. A tire according to Claim 12, wherein the secant modulus of extension of the calendering mix of said layers of working crown reinforcement has an intermediate value between the corresponding values of secant moduli of extension for calendering mixes respectively of the axially outer and inner carcass plies, said modulus being between 7.5 and 9.5 MPa.

15. A tire according to Claim 12, wherein the crown reinforcement comprises, radially above the working reinforcement, a protective reinforcement composed of at least one ply of reinforcement elements of aromatic polyamide forming an angle of between 45 and 70° with the circumferential direction.

16 - A tire according to claim 1 wherein a means for imparting a dimensional stability consists in the use of composite cables as reinforcement elements of the crown reinforcement, said composite

cables having a curve representing the tensile force as a function of the relative elongation of each reinforcement element of the carcass reinforcement is substantially composed of a two part curve on each side of a transition point corresponding to the relative elongation between 1% and 7%, said curve having a gradient at the origin (zero deformation) and a gradient at break (deformation εR), the ratio of the gradient of the tangent to the curve at the point of zero relative elongation ε0 to the gradient of the tangent to the same curve at the point of elongation at break εR being between 0.08 and 1.0, and wherein the breaking load of a reinforcement element being greater than 70 cN/tex.

17 - A tire according to claim 16 wherein the carcass is composed of reinforcement elements identical to the reinforcement elements of the crown reinforcement.

18. A tire according to Claim 3, wherein the tread has a tread pattern comprising a central rib separated axially from other ribs by circumferential grooves, the central rib being circumferentially continuous whereas the others ribs are divided into blocks by grooves of transverse general orientation.

19. An aircraft tire, inflated to high pressure, with a tread, a crown reinforcement and a radial carcass reinforcement, the crown reinforcement comprising at least one working reinforcement, obtained by winding in a zigzag, around a more or less cylindrical form and from one edge of said reinforcement to the other, a strip of at least one reinforcement element until at least two layers of crossed elements forming an angle of between 8° and 30° with the circumferential direction are formed, said reinforcement element being a composite cable formed by plying at least one yarn having a modulus of elasticity in tension at least equal to 2000 cN/tex, with at least one yarn, whether overtwisted or not, having a modulus of elasticity in tension at most equal to 1500 cN/tex, said moduli of elasticity of said yarns being measured for a tensile force equal to 0.1 times the breaking load of each yarn in question, wherein the tread of this aircraft tire is provided with a tread pattern comprising a central rib separated axially from other ribs by circumferential grooves, the central rib being circumferentially continuous whereas the others ribs are divided into blocks by grooves of transverse general orientation.